

Name:

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Geometry, Period

Due Date: Mon, Jan 12, 2014

**Geometry**

**Homework**

**Geometry Study Guide Homework**

***All of the skills below will be on the Semester Final Exam.***

***Your Homework:*** *pick 2 skills from each category (at least   
14 questions total).* ***Write a rigorous multiple choice question for each skill*** *that shows that you understand (a) the skill being tested at an appropriate level of difficulty, (b) the work to solve the problem, and (c) common distractors showing common student mistakes.   
Show all work to solve your problem. (Do not just give the answer.)*

1. Foundations of Geometry, part 1
   * Points, lines, planes
   * Collinear, coplanar
   * Absolute value (with number lines, distance, expressions)
   * Distance & line segments
2. Foundations of Geometry, part 2
   * Find midpoint given endpoints (on number line or graph)
   * Find endpoint given midpoint & the other endpoint
   * Line bisectors
   * Congruent line segments (with expressions for length)
3. Angles
   * Angle bisectors
   * Solving for x & finding m∠  
     (given numbers or expressions for angle measures)
   * Complementary & Supplementary angles
   * Angles formed by parallel lines with a transversal   
     (identify all congruent & supplementary angles)
4. Area & Perimeter, part 1
   * Perimeter & Area of Rectangles
   * Perimeter & Area of Squares
   * Perimeter & Area of Triangles
   * Manipulating shapes (increasing side length, perimeter, or area; writing length in relationship to width)
   * Finding perimeter or area of composite shapes   
     (made of multiple rectangles & triangles)
5. Area & Perimeter, part 2
   * Find missing angle of triangle given 2 interior angles  
     (in numbers or expressions)
   * Find missing angle given exterior angle
   * Find missing angle given vertical angles
   * Circumference & Area of a Circle  
     (exact using π or approximation in decimal form)
   * Find diameter or radius from the circumference or area of a circle (or vice versa)
6. Exponent Rules, part 1
   * Product Exponent Rule
   * Power Exponent Rule
   * Negative Exponent Rule
   * Quotient Exponent Rule
   * Zero Exponent Rule (optional)
   * Combining like terms
   * Combining different exponent rules in one expression
   * Simplifying fractions & roots with variables & exponents
7. Exponent Rules, part 2
   * Perfect squares (1-12) & square roots
   * Simplifying square roots (numbers & variables)
   * Comparing squared & cubed values (positive numbers, negative numbers, and fractions that are <1)
   * Simplifying inequalities with variable expressions
8. Quadratics
   * Factor a quadratic *expression* into two binomials  
     (mix of positive & negative, and with coefficients)
   * Find the solution(s) to a quadratic *equation*
   * Find the sum or product of solutions of a quadratic equation
   * Graph (on calculator) to find the vertex and x-intercept(s)